# Further Records of African Dragonflies (Odonata)

by

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Most of the following notes are records of Odonata in Central Africa, and particularly Rhodesia. Certain additions to the collection of the National Museum in Bulawayo are from tropical Africa and Madagascar. The description of the nymphal chuck of one Rhodesian species is also included.

*Lestes ?cineraceus* Martin, 1910, fig. 1
*Ann. Soc. ent. Fr.* **79**: 93.

The type locality for this species is unknown and Martin gives no illustrations in this paper which includes the descriptions of several species of *Lestes* Leach, 1815. A pair of specimens belonging to this genus was captured by D. Eccles at Nkata Bay, Nyasaland, December 1961, and appears to be close to this species:

MALE: Labrum and anteclypeus pale greenish, genae pale ochreous, rest of head and face above reddish-brown, antennal flagellum black. Thorax greenish-grey dorsally, to pale yellow laterally, with black markings: an

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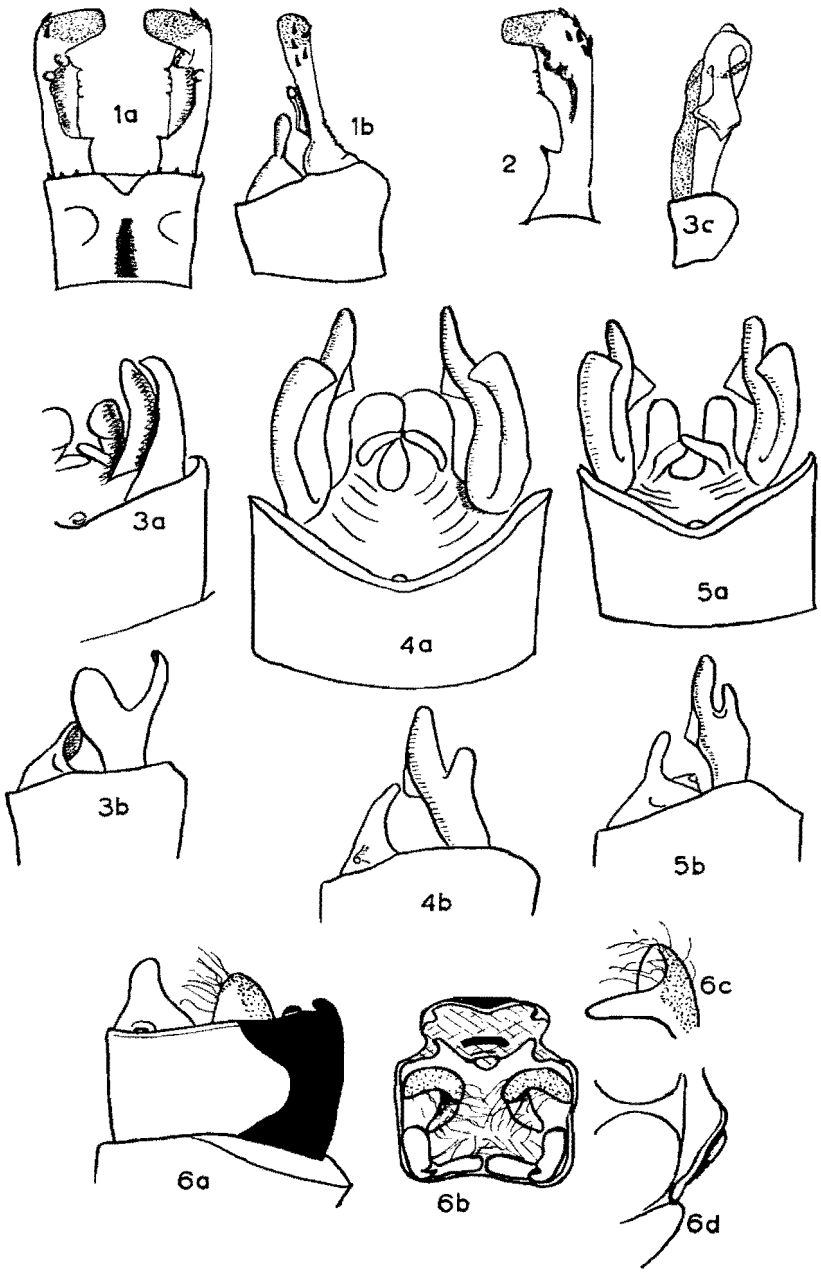
**EXPLANATIONS OF FIGURES**

Fig. 1. *Lestes ?cineraceus* Martin, ♂ (Nkata Bay).
a-b. anal appendages, from above and from right.
2. *L. radiatus* Martin, ♂ (Balla Balla).
left superior anal appendage, from above.
3. *Pseudagrion kibalense* Longfield, ♂ (Teturi).
a-b. anal appendages, from above and from right; c. penis.
4. *P. williamsi* spec. nov., ♂.
a-b. anal appendages, from above and from right.
5. *P. inconspicuum* Ris, ♂.
a-b. anal appendages, from above and from right.
6. *Ischnura hilli* spec. nov., ♂.
a-b. abdominal segment 10, with anal appendages, from right and from posterior view.
c. left superior appendage, from the inner side.
d. part of prothorax, from left.



irregular black discontinuous antehumeral stripe, severed before upper end; a spot at upper end of humeral suture, and a row of three spots on mesepimeron; also a dot on ventral surface of thorax. Legs pale yellow, with black lines on outer and inner surfaces of femora and on inner surfaces of tibiae. Wings hyaline, venation brown, pterostigma short and brown; forewing with 11 Px. Abdomen light brown, with pair of black distal hyphens on segments 2-6; 7-9 suffused with dark brown, 10 paler; a blackish, mid-dorsal line on 8-10 (as in *L. disarmatus* Fraser, in Pinhey, 1961). Anal appendages orange-brown, the superiors black at apices; superior appendage straight for three-quarters of its length, then right-angled inwards; a sub-basal tooth, less pronounced than in *L. pallidus* (Rambur, 1842), a pair of rounded dorsal tubercles before apical region; a slightly-toothed, inner ventral shelf; inferiors more like *L. pallidus.* Abdomen 31.5 mm, hindwing 19.5 mm, pterostigma 1.25 mm.

FEMALE: Labrum more yellowish. Antehumeral stripes reduced to two isolated spots in upper half of mesepisternum and only two small dots on mesepimeron; also a dot on ventral surface of thorax. The black on the legs somewhat reduced. Abdominal markings as in male, segment 10 and cerci yellow, the cercus less than the length of segment 10. Abdomen 30 mm, hindwing 20 mm, pterostigma 1.25 mm.

As far as the description of *L. cineraceus* is concerned our specimens from Nyasaland agree fairly closely. Martin gives the abdominal length as 27-29 mm, the body colour greyish and the anal appendages nearly straight. The difference in colour may perhaps be normal variation, but Martin's description of the appendages is inadequate.

*Lestes disarmatus* Fraser, 1961

in Pinhey, 1961, Survey of the Dragonflies of Eastern Africa, *Brit. Mus. Publn.*: 11 (♂, Northern Uganda); Pinhey, 1961, *Occ. Pap. Livingstone Mus.* **14**: 12 (♀).

A series of both sexes is in the National Museum, from Rhodesia: Victoria Falls, July 1955 (Pinhey), April 1962 (Pinhey and C. Green); and 96 miles South-East of Nuanetsi, April 1961. The species tends to lurk, rather gregariously, in clumps of trees and shrubs at some distance from the bank of the river.

*Lestes radiatus* Martin, 1910, fig. 2

*Ann. Soc. ent. Fr.* **79**: 94.

A single male taken by the author at Balla Balla, December 1956, has been tentatively placed to this species which Martin described from Abyssinia (Ethiopia). It may, perhaps, represent a southern race. In some ways it is closely akin to the Nyasaland examples described above under *L. cineraceus* Martin.

MALE: This male differs from the Nyasaland species mentioned above as follows: labrum and anteclypeus greenish-brown, rest of face and head above black. Thorax golden-brown, with black band on mid-dorsal carina; ante-humeral stripe reduced to two isolated upper spots (like the female of the Nyasaland *cineraceus*); a brownish humeral band (perhaps increased by postmortem change, yet similar on both sides); three dots forming traces of a stripe on mesepimeron and dots at upper ends of the lateral sutures; and a ventral dot. Legs similar. Venation and pterostigma blackish; forewing with 12-13 Px. Abdomen as in the Nyasaland species but segments 7-9 darker, 10 and superior appendages paler yellow, but also having the dorsal line on segments 9-10; superior appendage similar in shape, black at apex, but the sub-basal spine a little more pronounced and there are more minute teeth on inner flange. Inferiors similar.

Colours in life: eye royal blue, sky-blue below, darker on top; labrum and anteclypeus pale greenish-blue; thorax and abdominal segments 1-2 olive above, at sides apple-green to whitish; rest of abdomen pale grey-green. Abdomen 36 mm, hindwing 23 mm, pterostigma 1.5 mm.

In size and general characters mentioned by Martin this male agrees fairly closely with *L. radiatus* but may, perhaps, also be racially connected with the Nyasaland species which has been placed here as *L. cineraceus*.

*Amanipodagrion gilliesi* Pinhey, 1962

*J. ent. Soc. S. Afr.* **25**: 22.

Dr. Gillies, who collected the two original males at Amani, East Usambara Mountains, May 1959, sent a series of further males collected in February 1962. In this very primitive species the remarkable band across the wings, reminiscent of some of the *Chlorolestes* Selys, 1862, varies considerably. In one specimen there is only a faint, incomplete suffusion on each wing; in another, three wings are heavily banded, but the right hind wing (its apical portion missing) has no band at all! In another, again, the band is well developed on left wings, but slightly less so on right wings. Eight of these males have now been compared with the type and designated metatypes, which will remain in the National Museum, Bulawayo except for two metatypes, one of which will be presented to the British Museum (Nat. Hist.), where the headless paratype will also be deposited; the other to the Transvaal Museum, Pretoria.

*Isomecocnemis cyanura* (Förster), 1909

*Jb. nassau. Ver. Naturk.* **62**: 234.

One male from Mekoum Forest, Souanke District, Moyen Congo, May 1960, leg. Watuliki (presented by Col. T. H. E. Jackson). This is the first example received by the National Museum.

***Pseudagrion williamsi*** spec. nov., fig. 4

Very closely allied to *P. inconspicuum* Ris, 1931 but much larger. Its distribution overlaps with that species in N.W. Northern Rhodesia.

♂ - HOLOTYPE (mature): Genae mainly yellow, but rest of face and head all black, except for white pruinosity and very small, isolated green postocular spots. Prothorax black, coated mainly with white pruinosity. Synthorax black to first lateral suture; a broad black band on second lateral suture, sides otherwise yellowish, with some whitish pruinosity. Antehumeral stripes barely visible through the black coating, wider than half the mesepisternum. Legs black, femora with white pruinosity. Abdomen black, mainly coated with white pruinosity. Superior appendage slightly longer than segment 10, strongly bifid, the lower branch much the longer (as in *P. inconspicuum*); at the base of the lower branch a thin, flattened triangular extension. Pterostigma elongate, brown. Forewing with 13 Px. Ac in all wings at end of petiole. Paratypes very similar, or with less pruinosity. Abdomen 33 mm, hindwing 22.5 mm.

♀ - ALLOTYPE: Labrum black, with yellow anterior border; epistome black; frons greenish, with trace of black at base; vertex black, with narrow greenish postocular spots, linked across back of occiput. Prothorax black dorsally, mainly yellowish laterally. Stylets mainly black, not quite reaching half way across middle lobe of prothorax. Synthorax bronze-black to just below humeral suture; with yellowish antehumeral stripe about half the width of the mesepisternum. Sides yellowish; a black dot about one third from upper end of first lateral suture and one at upper end of second suture. Legs yellowish, with short black streak on outer sides of femora. Some white pruinosity on legs and ventral surface of thorax. Abdomen green with broad bronze-black dorsal band, interrupted on terminal segments; on segment 8 a small blue dorsal spot, 9 blue with black basolateral patch, 10 blue with black dorsal band. Pterostigma elongate, yellowish-brown; 13 Px; Ac at end of petiole. Abdomen 30 mm, hindwing 22 mm.

This species is named after Mr Donald Williams, who assisted with the author's expedition through Northern Rhodesia and northwards to Nigeria in 1958. The type specimens in the National Museum, Bulawayo, are from Northern Rhodesia; ♂ - holotype from Kabompo River; ♂ - paratypes from Chongwe, Milambo and Ndola; ♀ - allotype from Ndola. There is also a male from Mailamba, Northern Nigeria and one from Gazombo, Angola. One ♂ - paratype from Ndola will be sent to the British Museum (Nat. Hist.)

This species is closest to *P. incospicuum*, which also occurs in many parts of Northern Rhodesia. It is, however, much larger, the abdomen 32-34 mm (instead of 24-26 mm); the labrum is black instead of green; the antehumeral stripes are obliaterated, whilst in the latter they are distinctly narrow bluish-white pruinose. The anal appendages are very similar but more widely forked in the new species. In the female the prothoracic stylets are nearly all black, instead of yellow.

*Pseudagrion inconspicuum* Ris, 1931, fig. 5
*Rev. suisse Zool.* **38**: 98 (South Angola).

This species is widespread in Northern Rhodesia and its characters are

outlined under the previous, larger species. The postocular spots may be present or absent. The anal appendages of the male are illustrated in fig. 5.

*Pseudagrion kibalense* Longfield, 1959, fig. 3

*Publ. Cult. Cia Diamant. Angola* **45**: 22.

The range of this species, described from Uganda, is now extended through Moyen Congo (Mekoum), Northern Congo Republic (Teturi and Uele River) to the North Mwinilunga District of Northern Rhodesia. Appendages are illustrated here for a Tetrui specimen (fig. 3).

*Ischnura hilli* spec. nov., fig. 6

♂. HOLOTYPE (mature): Labium white; face, front of frons and base of antennae yellowish-green; a basal black line on labrum; postclypeus metallic greenish-black. Remainder of head above black, except for very small, isolated postocular spots. Prothorax black, the sides pale yellowish. Synthorax bronze-green dorsally to below humeral suture; with slender green antehumeral stripe. Sides of synthorax pale blue, with short black dorsal streak on each lateral suture. Legs pale yellowish; femora black externally, tibiae with black external line. Abdominal segment 1-2 pale blue with broad black band, constricted distally; segments 3-7 with bronze-black dorsal band constricted at each end of each segment; 8-9 pale blue with minute black basal dot, 9 also with small distal black triangle; segment 10 blue with broad black dorsal band. Distal margin of 10 extended to two points. Superior appendage very much shorter than segment 10, and having a stout basal projection pointing ventrad; inferior appendage slightly longer than superior and having a basal extension pointing inwards.

Venation brown, the radial vein paler. Pterostigma in forewing black with distal third pink; in hindwing yellowish-brown. Forewing with 8 Px. Ac in normal position for the genus. Abdomen 22 mm, hindwing 15.5 mm.

The single holotype, in the National Museum, was captured on the shore of Lake Alemaya, near Dire Dawa, Ethiopia, by Mr. B. C. Hill, after whom the author takes pleasure in naming the species.

This new species is nearest the Malgassian *I. filosa* Schmidt, 1951 which has the same small number of postnodal crossveins and rather similar anal appendages. The example of the new species differs in having a paler labrum and frons; a very differently coloured pterostigma in the forewing; there is no black lateral bar on abdominal segments 8-9; and the dorsal projections on distal margin of segment 10 are much more divergent, not raised and they do not project so prominently. The laterodistal margin of segment 10 is much straighter.

*Notogomphus zernyi* (St. Quentin), 1942

*Ann. naturh. (Mus.) Hofmus. Wien* **52**: 110.

*Notogomphus* species indet. Pinhey, 1951, *Transv. Mus. Mem.* **5**: 145.

Rhodesian examples of this species in the National Museum, are as follows: one male from Vumba Mountains, Umtali Distr., March 1942 (G. Arnold); one male from same locality, January 1957 (E. Pinhey); two very damaged examples and one teneral female from Inyanga, April 1957 (P. S. J. Turnbull-Kemp); one female from Pork Pie Hill, Melsetter Distr., March 1958 (D. Plowes); and a long series of both sexes, Inyanga, February 1961 (D. Wheeler and E. Pinhey). Most examples of the last series are tenerals, one is fully mature and a few other mature examples were seen, all in the space of about half-an-hour on the banks of the Inyangombie River. The teneral examples were settling on the long grass, the more mature specimens flying off into the trees. The eye of the male, in life, was blue-grey, whitish below; of the female, more green above.

*Onychogomphus supinus* Hagen & Selys, 1854
*Bull. Acad. Belg.* **21**(2): 34 (93, sep.).

Rhodesian localities in the collection of the National Museum, for this rather uncommon species are as follows: Honde Gorge below Inyanga Mountains, November 1956 (E. Pinhey); Pungwe Bridge, Honde Gorge, December 1960-January 1961 (D. Cookson); Umvumvumvu River, Sabi Valley, Januari 1961 (E. Pinhey); Umvumvumvu River, North Melsetter, January 1962 (D. Wheeler and E. Pinhey); and Ikelenge, Mwinilunga Distr., March 1962 (pupils of the Sakeji School). At the Pungwe Bridge locality Mr Cookson collected a long series of both sexes in very teneral condition at a mercury vapour light trap. This suggests that the species may emerge very late in the day.

*Macromia bicornis* Förster, 1906
*Jb. nassau. Ver. Naturk.* **59**: 320.

The National Museum now has this species from Coquilhatville, Congo, September 1961 (collector Watuliki, per T. H. E. Jackson). Known also from the Sudan, it is evidently widespread in tropical Africa, but not yet well known.

*Notiothemis jonesi* Ris, 1919
*Coll. Zool. Selys* **16**(2): 1054.

The nominotypical race of this species in chiefly known from the East African coasts. It has been taken near Salisbury by the author (Pinhey, 1951: 203) and, more recently, near Bulawayo: Matopos, February 1962 (Pinhey). It is a very shy woodland or forest species, like many of the African tetrathemines.

*Neodythemis arnoulti* Fraser, 1955, fig. 10
*Nat. Malgache* **7**(1): 40.

Mr R. Vieu has sent a few males and the unknown female of this species from Forêt de Fanovana, Madagascar, March 1962.

♀-NEALLOTYPE (slightly juvenile): Labrum blue-black; face in front deep yellow; frons above and laterally brown with metallic green sheen; vesicle metallic green with yellow crest. Prothorax with deep yellow median line, middle lobe otherwise brown; hindlobe deep yellow with small brown lateral dot. Synthorax ferruginous with metallic blue sheen, and deep yellow markings (fig. 10): a yellow line on median carina; two large lateral yellow spots, and most of the metepimeron yellow. Legs black, yellow at bases of femora. Abdomen black, with deep yellow spots: a distal triangle on segment 1, a dorsal vase-shaped mark on 2; lateral dots on segments 3-7, and lateroventral streaks on these segments; 8-10 and the short cerci black. Vulvar aperture small. Pterostigma dark brown; wing-bases amber, nearly to end of cubital spaces; two Cuq in all wings; forewing with 12 Ax, 8-9 Px; anal loop of seven to eight cells. Abdomen 22 mm, hindwing 27 mm, pterostigma 2.5 mm.

This female is identified with *N. arnoulti* Fraser, by its markings and is separated from a very close relative, *N. pauliani* Fraser, 1952, by the thoracic pattern, the size of the anal loop and the nodal index. In thoracic marking, however, the female seems to approach the condition of *pauliani* in having the lateral yellow spots separated, although they are almost connected. This neallotype is in the National Museum, Bulawayo.

*Orthetrum macrostigma* Longfield, 1945

*Arch. Mus. Bocage* **16**: 25, 30.

This species, known sparingly from Tanganyika and Angola, is represented in the National Museum, from the Ikelenge area of North Mwinilunga District, Northern Rhodesia: December 1956 (Kitchingman), February 1960 (Pinhey), and a series (both sexes) August, September and December 1961, March and April 1962 (Sakeji School). The female has not previously been recorded.

♀ - NEALLOTYPE (mature): Lips, face, frons and vertex entirely bright yellow. Thorax and abdomen also yellow. Synthorax with brown median band and a narrow brown band on middle of mesepisternum. Legs yellow with brown external streaks on tibiae. Abdomen with continuous black dorsal line on segments 1-9; black transverse carinae; a well marked black band above lateral carina, continuous except on bases of segments 2-3; 10 dorsally black, with yellow median spot; cerci fine, black, longer than segment 10. Foliations on segment 8 yellow with black edge.

Costa and the anterior crossveins yellow; pterostigma yellowish-brown, thickly edged with black at anterior and posterior edges; all wings with strong basal amber spot to second Ax, arculus and beyond Cuq; membranule whitish-grey. Forewing with 13-14 Ax, three rows in post-discoidal field, $Cu_2$ moderately curved, two rows in the Rspl loop, one row Mspl. Abdomen 26 mm, hindwing 29.5 mm, pterostigma 3.5 mm.

♀ - Neallotype in the National Museum; a female will be sent to the British Museum (Nat. Hist.). The female is readily distinguished from most members

of this large genus by the preponderance of yellow on the body and the costal-subcostal area of the wings; the distinctive pale pterostigma strongly framed with black; and the sharp basal amber on the wings. Both females were collected in August-September, 1961.

*Orthetrum falsum* Longfield, 1955, fig. 7
*Publ. Cult. Cia Diamant. Angola* **27**: 26.

One adult female was reared from a nymph at Douglasdale, 1.XII.1961.

DESCRIPTION OF NYMPHAL SHUCK: Total length 18 mm, greatest width of abdomen 4.5 mm. Body hairy, legs very spinous, general aspect typical of the genus. Antennae longish, one and a half times as long as the distance between their bases. Abdomen typical. Dorsal appendage only very slightly longer than abdominal segments 9 + 10, cercoids two-thirds as long. Mask (fig. 7) short; median lobe projecting medially; moveable spine longish, slender. Lobes crenulate at margins; margin of median lobe bearing a single short seta per socket, of lateral lobes two to three short setae per socket. Distribution of main setae: lateral lobe with six long setae; median lobe with three long setae, then, following a short gap, an oblique, irregular inner row of three to four setae of medium length and eight to ten very short setae.

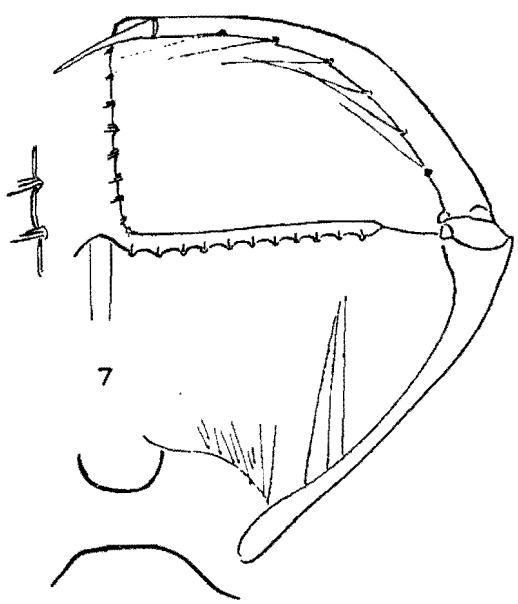



Fig. 7. *Orthetrum falsum* Longfield, mask of nymph.

In the plan of the mental setae this species is much closer to the condition in *O. caffrum* (Burmeister, 1839) than that in *O. brachiale* (Beauvois, 1805). In *caffrum* (see Pinhey, 1959: 482, fig. 39) the median lobe has three to four long setae, the inner one being shorter than the others and situate at the commencement of the inner row of short setae. In *brachiale* (see Pinhey, 1961: 166, fig. 3), there are only two long setae and 10-11 short setae.

*Palpopleura jucunda* Rambur, 1842, fig. 8
*Névr.* 134.

An extremely lightly marked male of this species has been collected and submitted by Mr B. G. Hill, from Errer Valley, near Dire Dawa, Ethiopia, 24.X.1961. The wing markings are so reduced that this male has a close superficial similarity to *P. deceptor* (Calvert, 1899). When first seen it was thought to be a dwarf of *deceptor* or even a new species. Closer examination showed the pre-nodal sinuosity of the costa of the forewing to be too pronounced for *deceptor*. Moreover, the accessory genitalia (fig. 8) resemble those of *jucunda*, the hamules being far less robust than in *deceptor* (fig. 9).

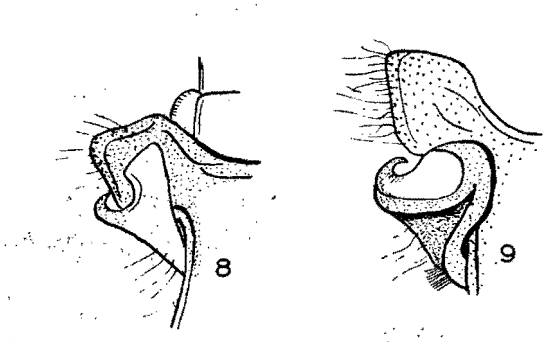



Fig. 8. *Palpopleura jucunda* Rambur (Ethiopia) ♂, accessory genitalia, from right
9. *P. deceptor* (Calvert) ♂, accessory genitalia, from right.

The wing pattern of this Ethiopian male includes traces of amber colour in subcostal and cubital zones and slender black streaks: a subcostal streak from base to eighth Ax in forewing, and to just beyond fifth Ax in hindwing; short streaks between sectors of the arculus and in cubital spaces in both wings; and a black nodal dot.

More material is required before it can be decided whether this specimen represents anything more than just individual variation.

*Porpax risi* Pinhey, 1958, fig. 12

**Porpax asperipes risi** Pinhey, 1958, *Occ. Pap. Nat. Mus. S. Rhod.* **22** (B): 115.

Until recently it was considered that *P. risi* Pinhey was a smaller race of the West African *P. asperipes* Karsch. The former, described from the eastern districts of Southern Rhodesia, has been taken in the Ikelenge area of Mwinilunga District (Northern Rhodesia) by the author, as well as by P. Lascelles and pupils of the Sakeji School. In March 1962, however, Mr L. R. Hess, who has sent several interesting consignments of Odonata collected by the pupils, forwarded examples of the larger *P. asperipes* (fig. 11). These

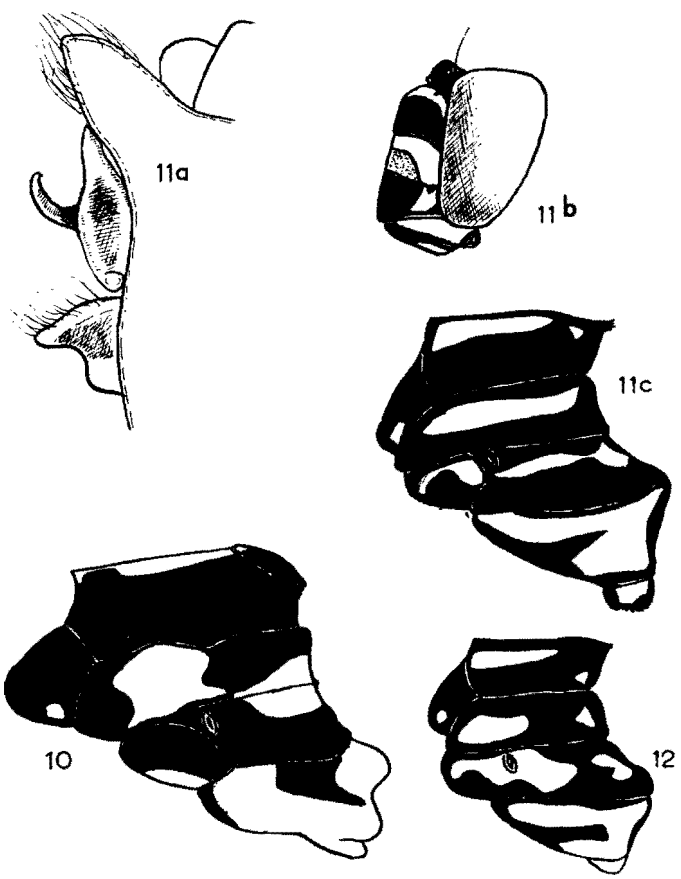



Fig. 10. *Neodythemis rancultí* Fraser, ♀, synthorax, from left.
11. *Porpax asperipes* Karsch, ♂ (Mwinilunga), a. accessory genitalia, from right. b-c. head and thorax, from left.
12. *P. risi* Pinhey, ♂ (Mwinilunga), synthorax, from left.

were all males, very similar to the West African *asperipes*, the abdomen blue pruinose, but proportionately more slender than in the small *risi*. In *risi* the labrum is nearly all green, not entirely black, and the thoracic pattern (fig. 12) differs. Thus, *Porpax risi* Pinhey, **comb. nov.**, is a distinct species.

*Sympetrum navasi* Lacroix, 1921

*Ann. Soc. ent. Belg.* **61**: 378.

This dark red species, known from Ivory Coast, Gambia and the Uganda shores of Lake Victoria (Pinhey, 1961c: 154) has now been found in the Barotse region of Northern Rhodesia: Shasheki, Zambezi River, one male, December 1961 (G. Guy and collector Tobias).

*Trithemis persephone* Ris, 1912

*Coll. Zool. Selys* **14**: 768.

In one of several interesting consignments of Odonata received from Mr Vieu in Madagascar are both sexes of this apparently scarce species present from Forêt de l'Est, near Tananarive, November 1961.

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